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ABSTRACT

Findings of two independently conducted longitudinal studies conducted in follow-up to the development and implementation of pre-clinical cancer prevention courses at different medical schools are discussed. While required to meet common contract objectives, each program was designed and integrated relative to content and instructional methods to accommodate existing curricular patterns (one traditional, the other systems-oriented). In each study, measures were employed at specified intervals in students' pre-clinical and clinical programs to assess and report knowledge gain (loss), changing perceptions and attitudes toward disease, and changing behaviors and interest relative to disease intervention. Results show that the prevention courses offered had a positive impact on student knowledge and attitude and little impact on clinical behavior. Because of the positive correlations found between knowledge and attitudes in both studies, it is suggested that continued development of prevention education programs, particularly with formal expansion and reinforcement in clinical programs, could likely have beneficial results in the future. (JN)

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IMPACT OF CANCER PREVENTION COURSES IN MEDICAL CURRICULA: LONGITUDINAL RESULTS AT TWO DIFFERENT MEDICAL SCHOOLS

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Impact of Cancer Prevention Courses in Medical Curricula: Longitudinal Results at Two Different Medical Schools.

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This paper reports the findings of two independently conducted longitudinal studies conducted in follow-up to the development and implementation of pre-clinical cancer prevention courses at different medical schools. While required to meet common contract objectives, each program was designed and integrated relative to content and instructional methods to accommodate existing curricular patterns; one traditional, one systems oriented. Similar conclusions, despite marked variations in program structure and study design provide the paper's intended significance.

While an interest in prevention and health education programs has been expressed since the Flexner Report in 1910 and has been an official policy of the Association of American Medical Colleges since 1945, the implementation of such programs arrived slowly, accelerating within the last decade (1,2,3,4). The interest in prevention and health education has been both a cause and an effect of the increase in family practices and health care organizations (HMO's), both of which focus on issues such as prevention, risk management, early detection and screening, treatment and care, and patient education. Love and his colleagues (5) found that physicians and residents in family medicine had more positive attitudes toward these issues than did those in internal medicine. Their data suggest that many physicians are unprepared to help their patients prevent illness.

In responding to these issues medical educators have designed courses which have attempted to prepare future physicians not only to understand disease processes, but also to apply knowledge clinically - that scientific knowledge is a necessary but an insufficient determinant of clinical behavior. Loransky, for example, in using a "readiness index" composed of both knowledge and attitudinal items as a predictive measure of clinical skill, found students participating in health education training programs had both higher readiness indexes and subsequently better clinical skills (6).

In each of the studies to be described, measures were employed at specified intervals in students' pre-clinical and clinical programs to assess and report knowledge gain (loss), changing perceptions and attitudes toward disease, and changing behaviors and interest relative to disease intervention (figure 1). At Wayne State University, members of the classes of 1982 and 1983 did not receive exposure to its course on prevention and served as controls. The classes of 1984 and 1985, required to take the course, comprised experimental groups. Offering its course on an elective basis, 28 students within the classes of 1984 and 1985 at SUNY Buffalo having taken its course comprised the experimental group. A total of 58 students served as controls.

MEASURES EMPLOYED

Cognitive Measures	Affective Measures	Behavioral Measures
Wayne State M/C & PMP's	Attitudinal Index	Clinical Activity Observation
NBME Public Health Section	Health Risk Appraisal Index	Clinical Interests (Electives, residencies, & literature use)
SUNY-Buffalo M/C Tests	Modified Cancer Attitude Survey (7)	Videotape interview analysis Clinical Practice Survey (Application Index)

Figure 1

As necessary, all measures employed underwent field testing and were appropriately refined to assure adequate levels of content and construct validity.

In both programs significant differences between experimental and control groups relative to knowledge gain and retention were noted on measures employed to assess specific course content whether it be of multiple choice format or patient management focus. Indirect assessments of a more general factual nature (NBME Sections), did not reveal measurable differences over time. In repeated assessments involving attitudinal measures, student exposed to the prevention courses consistently scored at higher positive levels, as hypothesized. While the trend of increasingly more positive attitude scores occurred, it was found that the final measures given correlated not only with scores of the prior year, but with pre-course scores. Assessments of clinical activities and behaviors were found to distinguish the group the least. While interviews, observations, and self reports in clinical settings showed higher presenting levels (occurances) of prevention oriented issues by program participants, they were neither significant nor consistent. Given the findings in knowledge and attitudinal domains, it might well be concluded that significant role models, curricular constraints, or perceived clerkship expectations may influence (inhibit or fail to reinforce) possible responses relative to prevention issues involving patient care and clinical intervention. The conclusion is generally supported by the fact that the experimentals within final year rated "prevention issues and topics" of higher relevance to patient care than did controls.

While both evaluations demonstrated that the prevention courses offered had a positive impact on student knowledge and attitude, little impact, if any, was noted in clinical behavior. Given the positive correlations found between knowledge and attitudes in both studies, it is suggested that continued development of prevention education programs, particularly with formal expansion and reinforcement in clinical programs could likely have beneficial results in the future.

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